



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/594,249

09/25/2006

Hajime Saito

0033-1107PUS1

7406

2292 7590 11/20/2008
BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER

GREEN, TRACIE Y

ART UNIT

PAPER NUMBER

2879

NOTIFICATION DATE

DELIVERY MODE

11/20/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No. 10/594,249	Applicant(s) SAITO ET AL.	
	Examiner TRACIE Y. GREEN	Art Unit 2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on August 7, 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Receipt is acknowledged of applicant's amendment filed 08/07/2008. Claims 1-10 are pending and an action on the merits is as follows.
2. Title has been amended; objection to title is hereby withdrawn.
3. Applicant's amendment with respect to claim 1 has been considered but is moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 and 3-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Justel et al. (US Patent 6,084,250) in view Doxsee et al. (US 2004/0159846) and in further view of Atagi (US 2002/0070682 A1).

Regarding Claims 1, Justel et al. (Justel, hereafter) teaches (Figure 1) a light-emitting device comprising a semiconductor excitation light source emitting blue-violet light (column 2, lines 60-63) and a solid material illuminant (2) having an absorbent for said blue-violet light (Column 1, lines 40-45).

Justel is silent regarding the absorbent containing Sm, wherein said solid material illuminant radiates light by inner shell transition of Sm by blue-violet light absorption (*Examiner note: this portion of the claim is considered a method of operation is not considered germane to the device as claimed*) (claim 1);

In the same field of endeavor, Doxsee et al. teaches the absorbent containing Sm (Paragraph 11, lines 1-7) wherein said solid material illuminant radiates light by inner shell transition of Sm by blue-violet light absorption (*Examiner note: this portion of the claim is considered a method of operation is not considered germane to the device as claimed.*)

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the light-emitting device of Justel wherein the absorbent containing Sm, wherein said solid material illuminant radiates light by inner shell transition of Sm by blue-violet light absorption in order to provide a device which can extend the wavelength range of the LED and produce "bright" white light as taught by Doxsee et al.

Juestel as modified by Doxsee et al. is silent regarding the material containing of 0.01-10 mol% of Sm.

In the same field of endeavor of light-emitting devices, Atagi teaches the material containing of 0.01-10 mol% of Sm (Paragraph 45 and 121) (*Examiner note: prior art reference reveals 0.1-10% by wgt of sm, examiner believes this to satisfy the claim as amended, absent a showing to the contrary*) in order to provide a device which can emit a longer wavelength of light (Paragraph 15).

Therefore one of ordinary skill in the art at the time of the invention could modify the device of Juestal where in the abosorbant contains 0.01-10 mol% of Sm in order to provide a device which can emit a longer wavelength of light as taught by Atagi.

Regarding claim 3, Justel is silent regarding wherein said semiconductor excitation light source emitting blue-violet light is a semiconductor laser device having an active layer of an InGaN semiconductor.

In the same field of endeavor, Doxsee et al. teaches wherein said semiconductor excitation light source emitting blue-violet light is a semi-conductor laser device (Paragraph 3, lines 1-2 and Paragraph 30, lines 1-5) having an active layer of an InGaN semiconductor (Paragraph 30, lines 1-3) in order to provide a device which can extend the wavelength range of the LED and produce "bright" white light.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the light-emitting device of Justel wherein said semiconductor excitation light source emitting blue-violet light is a semiconductor laser device having an active layer of an InGaN semiconductor in order to provide a device which can extend the wavelength range of the LED and produce "bright" white light as taught by Doxsee et al.

Regarding claim 4, Justel teaches wherein said solid material illuminant contains Sc, Y or a typical element as cations, and contains at least one of N, O and S as anions (Column 4, Table 2 and line 25-26).

Regarding claim 5, Justel teaches wherein said solid material illuminant contains both N and O as anions 6Column 4, lines 104)

Art Unit: 2879

Regarding claim 6, Justel teaches wherein said solid material illuminant contains at least one of nitrides of Ga, In and Al (Column 4, Table 1, lines 17 or 23).

Regarding claim 7, Justel teaches, wherein said solid material illuminant contains at least one of oxides of Y, Si, Al and Zn. (Column 3, lines 18-21, 22-25, and 25-30)).

Regarding claim 8, Justel teaches wherein said solid material illuminant contains a red phosphor having a peak wavelength in the range of 600 to 670 nm (Column 3, lines 35-38), a green phosphor having a peak wavelength in the range of 500 to 550 nm (Column 3, lines 49-51), and a blue phosphor having a peak wavelength in the range of 450 to 480 nm (Column 3, lines 41-43),

Regarding claim 9, Justel teaches wherein said red phosphor, said green phosphor and said blue phosphor contain rare earth elements (Column 4, table 1)

Regarding claim 10, Justel teaches wherein said solid material illuminant contains an n said red phosphor contains at least Sm or Eu. (Column 3, lines 50-55)/

6. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Justel et al. (US Patent 6,084,250) in view of Doxsee et al. (US 2004/0159846) as applied to claims 1 and 3, in view of Atagi (US 2002/0070682 A1) as applied to claim 1, and in further view of Maede et al. (Japanese Patent application 20030-1101500)

Justel as modified by Doxsee and Atagi teaches the lighting device set forth above (see rejection claim 1). Justel as modified by Doxsee et al. and Atagi is silent regarding wherein said blue-violet light has a peak wavelength in the range of 398 to 412 nm.

In the same field of endeavor, Maeda et al teaches in order to range of 398 to 412 nm(Paragraph 17, lines1-5) in order to provide a device which transmits sufficient color of blue and requires lower manufacturing costs.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the light-emitting device of Justel in order to range of 398 to 412 nm(Paragraph 17, lines1-5) in order to provide a device which transmits sufficient color of blue and requires lower manufacturing costs as taught by Maeda et al.

Response to Arguments

7. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

Art Unit: 2879

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TRACIE Y. GREEN whose telephone number is (571)270-3104. The examiner can normally be reached on Monday-Thursday, 7:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on 571/272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

/Tracie Y Green/
Examiner, Art Unit 2879

/Sikha Roy/
Primary Examiner, Art Unit 2879